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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,298	02/24/2004	Wayne Thomas McDermott	06472 USA	2078

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AIR PRODUCTS AND CHEMICALS, INC.
PATENT DEPARTMENT
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EXAMINER

SAN MARTIN, JAYDI A

ART UNIT	PAPER NUMBER
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2834

MAIL DATE	DELIVERY MODE
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08/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/785,298	Applicant(s) MCDERMOTT ET AL.	
	Examiner Jaydi A. San Martin	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2007.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
4a) Of the above claim(s) 1-9, 11 and 24-34 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 10 and 12-23 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/07, 10/06, 6/04, 2/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 10 and 12-23 in the reply filed on 7/13/07 is acknowledged. The traversal is on the ground(s) that the office action proved no evidence or reasoning to show that a serious burden exists. The Examiner agrees with applicants that no reasoning was provided in the previous office action. However, it should be noted that claim 1 does not require any specific shape for the transducer, while claims 10, 12 and 19 require a cylindrical shape and claim 11 requires a planar body. Claims 24-34 were previously withdrawn and arguments previously addressed.

The requirement is still deemed proper and is therefore made FINAL.

Specification

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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3. Claim 10, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kartluke (US 3381525).

Kartluke discloses an ultrasonic probe (figure 1) comprising an elongate body (26) having a first end (42) and a second end (24), an ultrasonic transducer attached to the probe at or adjacent the first end (30), a cylindrical collar support section (15) intermediate the ultrasonic transducer and the second end, wherein the probe is cylindrical between the first end and the collar support section, and wherein the collar support section has a diameter greater than diameter of the cylinder between the collar support section and the ultrasonic transducer (as shown in the figures).

4. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Bran (US 6140744).

Bran discloses an ultrasonic probe (figure 1 and 12 for example) comprising an elongate body (104) having a first end (attached to 134) and a second end (104c), an ultrasonic transducer (140) attached to the probe at or adjacent the first end (shown in figure 3 for example), a cylindrical collar support section (104d) intermediate the ultrasonic transducer and the second end, wherein the probe is cylindrical between the first end and the collar support section, and wherein the collar support section has a diameter greater than diameter of the cylinder between the collar support section and the ultrasonic transducer (as shown in the figures).

Regarding claim 12, Bran discloses a seal assembly (100) comprising a seal body (O-ring 102) and the ultrasonic probe as explained above, the O-ring is an elastomeric torroidal seal ring disposed coaxially between the collar support section of the ultrasonic probe and the second end of the seal assembly.

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Regarding claim 13, the ultrasonic probe extends beyond the first end of the seal body and the assembly comprises a compression fitting adapted to grip the ultrasonic probe (as shown in the figures).

5. Claim 10 is rejected under 35 U.S.C. 102(e) as being anticipated by Gunnerman (US 6652992).

Gunnerman discloses an ultrasonic probe (11, 21) comprising an elongate body (12) having a first end (not identified in the drawings) and a second end (19), an ultrasonic transducer attached to the probe at or adjacent the first end (ultrasonic transducer is attached to the probe – to the end portion- to generate ultrasonic energy and transmits the energy to the horn for amplification purposes), a cylindrical collar support section (16) intermediate the ultrasonic transducer and the second end, wherein the probe is cylindrical between the first end and the collar support section, and wherein the collar support section has a diameter greater than diameter of the cylinder between the collar support section and the ultrasonic transducer (as shown in the figures).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gunnerman in view of Bran.

Regarding claims 12, 13 and 17, Gunnerman discloses the ultrasonic probe as explained in item 5, but fails to disclose the assembly comprising the seal assembly and the elastomeric torroidal seal ring disposed between the collar support section and the second end of the seal assembly. Gunnerman also discloses the use of a titanium shell (17) covering the silver core (18).

Bran discloses the ultrasonic probe inserted through the wall (100) and supported in cantilever fashion, wherein an O-ring is sandwiched between the probe and the tank wall in order to provide proper seal. The O-ring acts as the elastomeric ring and the compression means.

Therefore, it would have been obvious at the time of the invention was made to use an O-ring to provide proper sealing between the ultrasonic probe and the tank assembly and maintaining the ultrasonic probe in coaxial position in the cylindrical passage of the seal assembly.

Regarding claim 14, the ultrasonic probe is made of metal as disclosed by Gunnerman.

Regarding claim 15, cover 17 is made of titanium that is a metal, which covers the silver core 18.

Regarding claim 16, it is old and well known in the art to use o-rings made from elastomeric materials.

Regarding claim 18, the transducer assembly is provided as claimed. (See figure 3).

Regarding claims 19-23, in addition to what was explained above for claims 12-18, Bran discloses the pressure vessel (cleaning tank 100) comprising an interior, an exterior and the opening allowing for the ultrasonic probe to be inserted into the tank. Regarding claim 22, fresh water is introduced to the cleaning tank as shown in figure 1 (top of the page, above item 108).

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Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaydi A. San Martin whose telephone number is 571-272-2018. The examiner can normally be reached on M-Th 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Jaydi A. San Martin
Patent Examiner-Class 310
Art Unit 2834

7/22/07